PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 122123.004-2	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/US04/01092	International filing date *(day/month/year)* 16 January 2004 (16.01.2004)	Priority date *(day/month/year)* 18 April 2003 (18.04.2003)
International Patent Classification (IPC) or national classification and IPC IPC: **A61L 2/00(2006.01),9/00(2006.01);C11D 7/54(2006.01);B08B 3/04(2006.01)** USPC: 510/161,218,367,370;422/28;134/22.12,26,41;366/208,333		
Applicant LANGFORD IC SYSTEMS, INC.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
   a. ☐ *(sent to the applicant and to the International Bureau)* a total of ___ sheets, as follows:
      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____ , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:
   - ☒ Box No. I Basis of the report
   - ☐ Box No. II Priority
   - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - ☐ Box No. IV Lack of unity of invention
   - ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - ☐ Box No. VI Certain documents cited
   - ☐ Box No. VII Certain defects in the international application
   - ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
30 September 2004 (30.09.2004)	02 April 2006 (02.04.2006)
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Gregory R. Del Cotto Telephone No. (571) 272-1312

Form PCT/IPEA/409 (cover sheet)(April 2005)

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/01092

Box No. I Basis of the report

1. With regard to the **language**, this report is based on:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4(a))

☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ the international application as originally filed/furnished

☒ the description:
pages 1-22 as originally filed/furnished
pages* NONE received by this Authority on
pages* NONE received by this Authority on

☒ the claims:
pages 23-25 as originally filed/furnished
pages* NONE as amended (together with any statement) under Article 19
pages* NONE received by this Authority on
pages* NONE received by this Authority on

☒ the drawings:
pages NONE as originally filed/furnished
pages* NONE received by this Authority on
pages* NONE received by this Authority on

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

☒ the description, pages None
☒ the claims, Nos. None
☒ the drawings, sheets/figs None
☒ the sequence listing (*specify*): None
☒ any table(s) related to the sequence listing (*specify*): None

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages
☐ the claims, Nos.
☐ the drawings, sheets/figs
☐ the sequence listing (*specify*):
☐ any table(s) related to the sequence listing (*specify*):

** If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/01092

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 4, 20	YES
	Claims 1-3, 5-19, 21, 22	NO
Inventive Step (IS)	Claims NONE	YES
	Claims 1-22	NO
Industrial Applicability (IA)	Claims 1-22	YES
	Claims NONE	NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:
Claims 1-3, 5-19, 21, and 22 lack novelty under PCT Article 33(2) as being anticipated by Holsclaw et al (US 6,482,370) or Kasting, Jr. et al (US 5,520,893).

Holsclaw et al teach an apparatus for generating ozone and injecting ozone into water and circulating the ozone containing water through dental water lines in a cleaning mode, and providing a source of disinfected/sterilized water for dental applications in an operation mode, comprising a reservoir for containing water; an ozone generator for producing ozone, a means for injecting ozone into said water forming ozonated water, means for pressurizing said reservoir, means for depressurizing said reservoir, a pump for recirculating said water from said reservoir through said means for injecting ozone, a power supply for said ozone generator and said pump, at least one line for circulating said ozonated water to at least one dental offeratory wherein a portion of said ozonated water is used in a dental application and a portion is recirculating to said reservoir, and means for controlling the activation of said ozone generator and said pump for selected operating intervals at selected periods of cycle times. See claim 1. The method provides ozonated water todental handpieces and other dental implements. See column 3, lines 30-40. Holsclaw et al dislclose the claimed invention with sufficient specificity to constitute anticipation.

Kasting, Jr. et al teach medical instruments, including stainless steel, plastic tubing, and the like, are sterilized in a portable apparatus that provides a low volume, high pressure flow of continuously circulating water containing from about 2 to 6 ppm of ozone. The apparatus for sterilizing articles comprises an open chamber for containing articles to be sterilized, said chamber receiving a recirculated supply of water containing ozone for immersion contact with the articles to be sterilized; an openable lid associated with said open chamber for substantially precluding ozone that escapes from the water from escaping from said chamber when said apparatus is being operated, said lid comprising an ozone destroying substance; means for recirculating a flow of the water containing ozone through said cahmber sufficient for immersion contact of said articles in the ozone containing water, said recirculating means including: an ozone generator of gemrating ozone, a high voltage transformer for supplying power to said generator, said transformer being a step up transformer and having an output voltage of from at least about 8000 to 12000 volts, means for injecting ozone generated by said generator into water in a concentration of at least about 0.2 ppm, a pump having a fluid intake and a fluid discharge for recirculating

water containing ozone at a pressure of from about 25 to 40 psig and at a rate of from about 1 to 4 gallons per minute, a first fluid flow conduit nterconnecting said chamber and said intake side of said pump for flow from said chamber to said pump; a second fluid flow conduit interconnecting said ozone injecting means with said dischare side of said pump; and a third fluid floe conduit interconnecting said ozone injecting means with said chamber for recirculating flow of the water containing ozone through said chamber, and safety means electrically connected to said lid for precluding the operation of said recirculating means when said lid is open. See claim 1. Kasting, Jr. et al disclose the claimed invention with sufficient specificity to constitute anticipation.

Accordingly, the teachings of Holsclaw et al anticipate the material limitations of the instant claims.

Claims 4 and 20 lack an inventive step under PCT Article 33(3) as being obvious over Holsclaw et al (6,482,370).

Holsclaw et al are relied upon as set forth above. However, Holsclaw et al do not teach, with sufficient specificity, a cleaning system containing ozone in the specific proportions as recited by the instant claims.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to formulate a cleaning system containing ozone in the specific proportions as recited by the instant claims, with a reasonable expectation of success, because the broad teachings of Holsclaw et al suggest a cleaning system containing ozone in the specific proportions as recited by the instant claims.

Claims 1-22 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

Claims 4 and 20 meet the criteria set out in PCT Article 33(2) because the prior art does not teach or anticipate a cleaning system containing ozone in the specific proportions as recited by the instant claims.

---------- NEW CITATIONS ----------